***2.5 FIRE DEPARTMENT DIESEL EXHAUST SYSTEMS**
Award a Sole Source Contract in the Amount of $300,841.91 to Air Exchange Clean Air Specialists for the Purchase and Installation of Fire Department Diesel Exhaust Systems

Contact Person:

Name:	Mike Avila	Jake Lavin
Title:	Fire Captain	Senior Manager
Dept.:	Fire Department	Development and Environmental Services
Phone:	510-494-4211	510-494-4428
E-Mail:	mavila@ci.fremont.ca.us	jlavin@ci.fremont.ca.us

Executive Summary: The purpose of this report is to recommend City Council award a "Sole Source" contract to Air Exchange Clean Air Specialists in the amount of $300,841.91 for the purchase and installation of Plymo Vent diesel exhaust systems in 10 fire stations to protect City firefighters from dangerous diesel exhaust fumes. The work is one aspect of implementing the building program of the Fire Safety Bond and would be funded from that program.

BACKGROUND:
During the course of regular daily business, firefighters are exposed to an inordinate amount of toxic atmospheres. In all aspects of emergency response the City provides its employees with the best possible Personal Protective Equipment. The one area of hazard that has not been fully addressed is the hazards related to regular exposure to diesel exhaust fumes within the fire stations. Diesel engines used in Fire Apparatus produce a mixture of toxic gases and particulates as a result of the combustion process. Analyses of general diesel exhaust have revealed a variety of extremely toxic substances at significant concentrations, including but not limited to nitrous oxides, carbon monoxide, aromatic hydrocarbons and other volatile organic compounds.

Because many of these toxic substances are invisible to the naked eye and even can be difficult to detect, the risk they present is often unnoticed. However, the fumes from diesel exhaust can penetrate and absorb into clothing, furniture and other items in the fire station that firefighters regularly contact. Concerns over diesel exhaust exposure at fire stations are well founded. Both the National Institute for Occupational Safety and Health (NIOSH) and the U.S. Occupational Safety and Health Administration (OSHA) have declared human exposure to diesel exhaust as a potential occupational carcinogenic (cancer causing) hazard through toxicological studies.

The Fire Department currently uses two different types of systems to prevent exposure to diesel exhaust. In four stations, a ventilation system exchanges air in the apparatus room with clean air from the outside much like a ventilation system in a bathroom. Air and exhaust fumes are sucked from the building, but only after the occupants and equipment in the room have been exposed to the fumes. For the remaining stations, the Fire Department uses a hose system that attaches to the fire engine's tailpipe to try to capture the exhaust. The system, which is similar to what might be found in an auto mechanic's shop or corporation yard where maintenance is occasionally performed on running vehicles, has not been customized to its use in the fire service. The hose does not move and release with the fire engine when the fire engine exits the building, and the fire engine must pull into the building before the hose can be attached. The system has not been effective, and has been prone to maintenance problems.

Based on the documentation of exposure risks to diesel exhaust and the ineffectiveness of its current systems, the Fire Department staff researched options for providing a more effective means of mitigating exposure to diesel exhaust. An exhaust source capture system, commonly referred to as a diesel exhaust system, was determined to be the most effective and reliable tool. Discussions with other agencies and vendors produced only two viable diesel exhaust systems: PlymoVent and Nederman. The PlymoVent system is manufactured in Edison, New Jersey and must be installed and serviced through certified, authorized regional distributors. The regional dealer for Plymo Vent operates from San Bruno, California. The Nederman system is manufactured in Sweden and distributed from Westland, Michigan and must be installed and serviced by an approved representative located in Loomis, California (near Sacramento).

Three major factors that led Staff to recommend the selection of the Plymo Vent system are: (1) Capture Rate, (2) Standardization, and (3) Quality of Service.

Capture Rate

The Plymo Vent system utilizes a patented pneumatic nozzle to attach to the vehicle tailpipe and provides for a 100% capture rate of exhaust fumes that has been independently verified by a testing lab. To enable the Plymo Vent system to work, apparatus must be equipped with specialized tailpipes and all new Fire apparatus purchased in the last four years have this feature. All older apparatus would be retrofitted with specialized tailpipes as part of the contract to install the Plymo Vent system. The Nederman system nozzle does not provide an airtight seal to the vehicle's tailpipe, and while the product's sales literature claims that it can achieve a 100% capture rate, there is no independent verification of that claim and experience with installations at fire stations suggests that the capture rate is less than 100% and depends on the vehicle's operating speed or RPMs (revolutions per minute).

Standardization

The PlymoVent system is used in a large number of California fire facilities. It is installed in over 1,000 fire stations in California and the Pacific Northwest. Several of our neighboring local jurisdictions also use the Plymo Vent system including Newark, Union City, Milpitas, Livermore/Pleasanton, and Alameda County. Many previously used the Nederman system and have moved to Plymo Vent for their new stations. By matching the City's systems to neighboring jurisdictions, Fire staff will be protected both in their home station and while operating in other stations during mutual aid assignments.

Quality of Service

While reliability was the most common reason cited for the selection of the Plymo Vent system by neighboring agencies, it is still a mechanical system that requires occasional maintenance and repair. The local and authorized vendor, Air Exchange, of San Bruno maintains a large stock of parts and currently has 8 trained technicians to service our equipment. This local service level will be important to ensure that maintenance costs are controlled and any downtime of the system is minimized.

The factors supporting the recommendation of a sole source contract to install the Plymo Vent system are in accordance with those outlined in the City's Purchasing Ordinance (Fremont Municipal Code title 2, chapter 9, section 2-9701). In discussions between Fire, Finance and City Attorney staff, it is believed that this purchase qualifies as a "specialty item(s)" purchase, which meets the City's needs and can only be provided by one vendor in Northern California. The system is proprietary to Plymo Vent, Inc. Plymo

Vent has regional dealerships across the country and only one in Northern California, Air Exchange. After Air Exchange, the nearest dealership is in Southern California. Since these dealerships are territorial, it is believed that the bidding process would result in only one "Responsive and Responsible" bidder, Air Exchange.

Pricing: Staff did extensive research on system options and costing in preparing the 2001 CIP request to purchase these systems. A total cost was estimated at $490,000 and approved beginning in FY2003/2004 as part of CIP #767. Staff has negotiated with Air Exchange on the terms of the installation of the system throughout all 10 fire stations. Air Exchange has agreed to offer the same pricing made available to the Los Angeles County Fire Department by its sister company in Southern California. Total cost for equipment and installation is $300,841.91. Through this pricing, the City will save 39% over the original quotes obtained during our research.

Implementation: If City Council approves the sole source contract with Air Exchange, the installation of the system is expected to occur between April and June. The system would be installed in all fire stations in this time period except Fire Station #7 (Grimmer), which will be undergoing major retrofitting as part of the Fire Safety Bond measure starting in the fall. The system will be installed in Fire Station #7 as part of the retrofit work. Installation of the system in other Fire Stations will not interfere with the planned retrofitting work. The system is portable and will be transferred to the new Fire Station #2 (Niles), Fire Station #6 (Centerville), and Fire Station #8 (North Fremont) when those projects are completed.

FUNDING

Funding for the project was originally planned with CIP #767 in the amount of $490,000. As the magnitude of needed renovations and seismic retrofits for Fire stations became more clear, the project was merged into CIP #632 which was labeled Fire Station Seismic Retrofit/Remodels/Relocations – Phase I. This CIP later became the foundation for Measure R, also known as the Fire Safety Bond, which was successfully passed by the voters in November 2002. The purchase of diesel exhaust systems was scoped into Bond estimates, and funds are available from the $10 million in bonds that were sold in June 2003.

ENCLOSURE: None.

RECOMMENDATION:

1. Award a "sole source" contract to Air Exchange for purchase and installation of 10 Plymo Vent diesel exhaust systems in the amount of $300,841.91.
2. Authorize the City Manager to sign a contract with Air Exchange for purchase and installation of 10 Plymo Vent diesel exhaust systems in the amount of $300,841.91.
3. Appropriate funds from the Fire Safety Bond revenue fund (208) to the ten Fire Station projects in the following amounts: Fire Station #1 PWC 8551 ($48,243.61), Fire Station #2 PWC 8549 ($16,645.41), Fire Station #3 PWC 8552 ($18,398.32), Fire Station #4 PWC 8555 ($31,689.06), Fire Station #5 PWC 8554 ($31,689.06), Fire Station #6 PWC 8531 ($29,934.47), Fire Station #7 PWC 8550 ($50,107.68), Fire Station #8 PWC 7838 ($10,756.18), Fire Station #9 PWC 8556 ($31,689.06), Fire Station #10 PWC 8553 ($31,689.06).